

REMARKS

Applicant respectfully requests reconsideration and allowance of the application. Claims 1-8 and 10-36 are pending in this application.

A review of the claims indicates that:

A) Claims 4-5, 7, 10, 12-13, 15, 17-18, 20-21, 23-25, 28-31, 34, and 36 remain in their original form.

B) Claims 1-3, 6, 8, 11, 14, 16, 19, 22, 26-27, 32-33, and 35 are currently amended.

C) No claims are previously presented.

D) No claims are currently added.

E) Claim 9 is currently cancelled.

Claims 1-5 are rejected under 35 U.S.C. §101 as being directed towards nonstatutory subject matter.

Claims 1-8 and 10-36 are rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent 5,073,968 to Morrison (hereinafter "Morrison"), in view of US Patent 6,510,083 to See et al. (hereinafter "See").

In view of the following remarks, Applicant respectfully requests allowance of the pending claims.

Interview with Examiner

Applicant wishes to thank the Examiner for the telephonic interview on June 19, 2007. In particular, Applicant wishes to thank the Examiner for her helpful assistance regarding both the claim amendments listed above and the arguments listed below.

1 **35 U.S.C. §101**

2 **Claims 1-5**

3 Claims 1-5 are rejected under 35 U.S.C. §101 as being directed to
4 nonstatutory subject matter. In the interest of furthering prosecution, Applicant
5 has amended claims 1 and 3 such that all elements are affirmatively recited in
6 accordance with the Examiner's preference, as stated in the June 19, 2007
7 telephonic interview. Claims 2, 4, and 5 need no such amendments, since in their
8 present form, all elements are already affirmatively stated. Accordingly
9 withdrawal of this rejection is respectfully requested.

10
11 **35 U.S.C. §103(a)**

12 **Claims 1-8 and 10-36**

13 Claims 1-8 and 10-36 stand rejected under 35 U.S.C. §103(a) as being
14 unpatentable over Morrison in view of See. Applicant respectfully traverses the
15 rejection.

16
17 **Amended independent claim 1 recites:**

18 A method comprising:

- 19 emulating an operation of a client;
20 comparing a first identifier in a pointer used by the emulated
21 operation with a second identifier included in a table entry, wherein
22 an address to a contiguous portion of emulated memory is included in
23 both the pointer and the table entry; and
24 accessing the contiguous portion of emulated memory with the
25 emulated operation when the first and second identifiers are the same.

24 Morrison and See, either alone or in combination, fail to disclose, teach or
25 suggest the method of claim 1.

1 Instead, Morrison describes the use of marking tags stored in supplemental
2 memory to provide additional information regarding states acquired by an
3 emulator during tracing for dequeuing. (Abstract). In particular, valid opcode
4 information is extracted from a location indicated by a read pointer, and an
5 appropriate marking tag for the opcode information is loaded into supplemental
6 mark memory at a position indicated by a mark pointer. (Col. 6, lines 7-32). The
7 marking tag for the opcode information is determined by referencing a look up
8 table containing a predetermined coding scheme for marking emulation analysis
9 states based on the opcode information. (Col. 6, lines 13-20). Marking tags in the
10 table can include the following definitions:

11 000 - null (opcode has not been marked or has been affected)

12 001 - low byte is the only opcode

13 010 - high byte is the only opcode

14 011 - both bytes are opcodes

15 100 - neither byte is an opcode, but it is marked. (Col. 6, lines 18-28).

16 As a result, Morrison fails to disclose, teach or suggest "comparing a first
17 identifier in a pointer used by the emulated operation with a second identifier
18 included in a table entry, wherein an address to a contiguous portion of emulated
19 memory is included in both the pointer and the table entry" as recited in claim 1.
20 Instead, Morrison describes determining a marking tag *based on* opcode
21 information indicated by a read pointer, and saving the marking tag at a position in
22 supplemental mark memory indicated by a marking pointer. (emphasis added).
23 No mention is given in Morrison as to first and second identifiers, or to a
24 comparison of such identifiers. Moreover, pointers in Morrison are only used to
25 mark positions in memory, and no other information is gleaned from them.

1 Morrison also fails to disclose, teach or suggest “accessing the contiguous
2 portion of emulated memory with the emulated operation when the first and
3 second identifiers are the same” as recited in claim 1. Indeed, as noted above,
4 Morrison makes no mention of first and second identifiers, or a comparison of
5 them. Instead, Morrison only describes looking up marking tags based on an
6 emulation analysis state associated with a portion of opcode information. No
7 comparison is made during this operation, and Morrison mentions no action being
8 taken based on results of a comparison.

9 See does not remedy the missing teachings of Morrison.

10 In rejecting claim 1, the Office relies on Figure 6 “check for legal address
11 ranges”, Col. 2, lines 35-41, and Col. 6, lines 38-40 of Morrison as teaching
12 permitting the emulated operation to access a contiguous portion of emulated
13 memory only when a pointer used by the emulated operation and a table entry
14 used to manage the emulated memory both contain the same identifier, wherein an
15 address to the contiguous portion is contained in both the pointer and the table
16 entry. (*Office Action*, Page 4). Applicant respectfully disagrees. As noted above,
17 Morrison is only concerned with storing marking tags associated with opcode
18 information. The marking tags are chosen from the table *based on* the opcode
19 information with which the marking tags will be associated. (emphasis added).
20 Therefore no comparison is possible.

21 Choosing marking tags based on opcode information is not the same as
22 “comparing a first identifier in a pointer used by the emulated operation with a
23 second identifier included in a table entry, wherein an address to a contiguous
24 portion of emulated memory is included in both the pointer and the table entry”
25

1 and "accessing the contiguous portion of emulated memory with the emulated
2 operation when the first and second identifiers are the same" as recited in claim 1.

3 Accordingly, since Morrison and See, either alone or in combination, fail to
4 disclose, teach or suggest all of the elements of claim 1, the §103(a) obviousness
5 rejection of claim 1 based on Morrison and See is not supported. Applicant
6 therefore respectfully requests that the §103(a) rejection of claim 1 be withdrawn.

7 **Dependent claims 2-5** are allowable due to their dependence from an
8 allowable base claim. These claims are also allowable for their own recited
9 features that, in combination with those recited in claim 1, are neither disclosed,
10 taught nor suggested by the combination of Morrison and See. Applicant
11 therefore respectfully requests that the §103(a) rejection of claims 2-5 be
12 withdrawn.

13
14 **Amended independent claim 6** recites:

15 A method comprising:

16 making a call to a memory manager for an emulated memory
17 access operation to an allocated contiguous portion of emulated
18 memory, wherein a generation count has been assigned to:

19 a plurality of table entries corresponding to a
20 respective plurality of said allocated contiguous portions of emulated
21 memory, and

22 a plurality of pointers each including an address to a
23 respective said allocated contiguous portion of emulated memory;

24 comparing the generation count:

25 in the pointer including the address to the allocated
contiguous portion of emulated memory; and

in the table entry corresponding to the allocated
contiguous portion of emulated memory;

if the respective said generation counts in the comparison do
not match, then outputting a diagnostic; and

if the respective said generation counts in the comparison
match, removing the generation count from the pointer specified by

1 the memory manager for the emulated memory access operation
2 during the performing of the emulated memory access operation for
3 which the memory manager was called.

4 For reasons similar to those described above in conjunction with claim 1,
5 Morrison and See, either alone or in combination, fail to disclose, teach or suggest
6 “comparing the generation count: in the pointer including the address to the
7 allocated contiguous portion of emulated memory; and in the table entry
8 corresponding to the allocated contiguous portion of emulated memory” as recited
9 in claim 6.

10 Accordingly, since Morrison and See, either alone or in combination, fail to
11 disclose, teach or suggest all of the elements of claim 6, the §103(a) obviousness
12 rejection of claim 6 based on Morrison and See is not supported. Applicant
13 therefore respectfully requests that the §103(a) rejection of claim 6 be withdrawn.

14 **Dependent claims 1-8 and 10-13** are allowable due to their dependence
15 from an allowable base claim. These claims are also allowable for their own
16 recited features that, in combination with those recited in claim 6, are neither
17 disclosed, taught nor suggested by the combination of Morrison and See.
18 Applicant therefore respectfully requests that the §103(a) rejection of claims 1-8
19 and 10-13 be withdrawn.

20 **Amended independent claim 14** recites:

21 In a first computing device executing a first application for the
22 emulation of a second computing device executing a second
23 application, a method comprising:

24 making a call from the second application to a memory
25 manager for an emulated memory access operation to an allocated
contiguous portion of emulated memory used by the second
application and including a plurality of said allocated contiguous
portions, wherein:

1 a generation count is in a plurality of table entries
2 corresponding to a respective plurality of said allocated contiguous
3 portions of emulated memory;

4 a generation count is in a plurality of pointers each
5 including an address to a respective said allocated contiguous
6 portion of emulated memory;

7 for the emulated memory access operation, the
8 memory manager uses the address in the pointer that corresponds to
9 the allocated contiguous portion in emulated memory after removal
10 of the generation count from the pointer; and

11 prior to performing the emulated memory access operation to
12 the allocated contiguous portion of emulated memory:

13 comparing the generation count:

14 in the pointer including the address of the
15 allocated contiguous portion of the emulated memory; and

16 in the table entry corresponding to the allocated
17 contiguous portion of the emulated memory;

18 outputting a diagnostic when the respective said
19 generation counts of the comparison do not match.
20

21 For reasons similar to those described above in conjunction with claim 1,
22 Morrison and See, either alone or in combination, fail to disclose, teach or suggest
23 “prior to performing the emulated memory access operation to the allocated
24 contiguous portion of emulated memory: comparing the generation count: in the
25 pointer including the address of the allocated contiguous portion of the emulated
memory; and in the table entry corresponding to the allocated contiguous portion
of the emulated memory” as recited in claim 14.

Accordingly, since Morrison and See, either alone or in combination, fail to
disclose, teach or suggest all of the elements of claim 14, the §103(a) obviousness
rejection of claim 14 based on Morrison and See is not supported. Applicant
therefore respectfully requests that the §103(a) rejection of claim 14 be withdrawn.

Dependent claims 15-21 are allowable due to their dependence from an
allowable base claim. These claims are also allowable for their own recited

1 features that, in combination with those recited in claim 14, are neither disclosed,
2 taught nor suggested by the combination of Morrison and See. Applicant
3 therefore respectfully requests that the §103(a) rejection of claims 15-21 be
4 withdrawn.

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6 **Amended independent claim 22** recites:

7 A computer-readable medium including instructions for execution
8 by a computer, wherein the instructions comprise:

9 first logic calling for an emulated memory access operation
10 with respect to a first of a contiguous portion of an emulated
11 memory for which there is:

12 a corresponding table entry in a table having a plurality
13 of said table entries that map to respective other said portions of the
14 emulated memory, wherein each said table entry includes an
15 identifier; and

16 a corresponding pointer to a plurality of pointers each
17 including an identifier and an address to a respective said contiguous
18 portion of the emulated memory;

19 second logic, in response to the first logic, such that, if the
20 identifier in the table entry corresponding to the first said contiguous
21 portion is the same as the identifier in the pointer corresponding to
22 the first said portion, then:

23 the emulated memory access operation is performed
24 with respect to the first said contiguous portion of the emulated
25 memory; and

when the emulated memory access operation is neither a read
operation nor a write operation, the identifier is identically changed
in both:

the table entry corresponding to the first said portion;
and

the pointer corresponding to the first said portion;

third logic, when the identifier in the table entry
corresponding to the first said contiguous portion is different from
the identifier in the pointer corresponding to the first said portion,
calling for a diagnostic to be output.

For reasons similar to those described above in conjunction with claim 1, Morrison and See, either alone or in combination, fail to disclose, teach or suggest “second logic, in response to the first logic, such that, if the identifier in the table entry corresponding to the first said contiguous portion is the same as the identifier in the pointer corresponding to the first said portion, then: the emulated memory access operation is performed with respect to the first said contiguous portion of the emulated memory” as recited in claim 22.

Accordingly, since Morrison and See, either alone or in combination, fail to disclose, teach or suggest all of the elements of claim 22, the §103(a) obviousness rejection of claim 22 based on Morrison and See is not supported. Applicant therefore respectfully requests that the §103(a) rejection of claim 22 be withdrawn.

Dependent claims 23-25 are allowable due to their dependence from an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in claim 22, are neither disclosed, taught nor suggested by the combination of Morrison and See. Applicant therefore respectfully requests that the §103(a) rejection of claims 23-25 be withdrawn.

Amended independent claim 26 recites:

A first software program which, when executed by a computing device, emulates the execution of a second software program using emulated memory, the first software program comprising instructions that permit the second software program to perform an emulated memory access operation on a previously allocated contiguous portion of the emulated memory only when a pointer and a table entry both include the same identifier, wherein:

the pointer also includes an address to the previously allocated contiguous portion which is useable to access the

1 previously allocated contiguous portion after removal of the
2 identifier; and
3 the table entry maps to the previously allocated contiguous
4 portion.

5 For reasons similar to those described above in conjunction with claim 1,
6 Morrison and See, either alone or in combination, fail to disclose, teach or suggest
7 “the first software program comprising instructions that permit the second
8 software program to perform an emulated memory access operation on a
9 previously allocated contiguous portion of the emulated memory only when a
10 pointer and a table entry both include the same identifier” as recited in claim 26.

11 Accordingly, since Morrison and See, either alone or in combination, fail to
12 disclose, teach or suggest all of the elements of claim 26, the §103(a) obviousness
13 rejection of claim 26 based on Morrison and See is not supported. Applicant
14 therefore respectfully requests that the §103(a) rejection of claim 26 be withdrawn.

15 **Dependent claims 27-31** are allowable due to their dependence from an
16 allowable base claim. These claims are also allowable for their own recited
17 features that, in combination with those recited in claim 26, are neither disclosed,
18 taught nor suggested by the combination of Morrison and See. Applicant
19 therefore respectfully requests that the §103(a) rejection of claims 27-31 be
20 withdrawn.

21 **Amended independent claim 32** recites:

22 A computer-readable medium including instructions for execution
23 by a computer, wherein the instructions comprise:
24 means for emulating an operation of a client as the client
25 executes an application; and
means for outputting a diagnostic when:
the emulated operation attempts to access a previously
allocated contiguous portion of emulated memory using a pointer

1 including an identifier, wherein the pointer is configured to access
2 the previously allocated contiguous portion of the emulated memory
3 upon removal of the identifier; and

4 a table entry used to manage the emulated memory
5 does not include the same identifier as the identifier in the pointer,
6 wherein an address to the previously allocated contiguous portion is
7 included in both the pointer and the table entry.

8 For reasons similar to those described above in conjunction with claim 1,
9 Morrison and See, either alone or in combination, fail to disclose, teach or suggest
10 "means for outputting a diagnostic when: the emulated operation attempts to
11 access a previously allocated contiguous portion of emulated memory using a
12 pointer including an identifier, wherein the pointer is configured to access the
13 previously allocated contiguous portion of the emulated memory upon removal of
14 the identifier; and a table entry used to manage the emulated memory does not
15 include the same identifier as the identifier in the pointer, wherein an address to
16 the previously allocated contiguous portion is included in both the pointer and the
17 table entry" as recited in claim 32.

18 Accordingly, since Morrison and See, either alone or in combination, fail to
19 disclose, teach or suggest all of the elements of claim 32, the §103(a) obviousness
20 rejection of claim 32 based on Morrison and See is not supported. Applicant
21 therefore respectfully requests that the §103(a) rejection of claim 32 be withdrawn.

22 **Dependent claims 33-36** are allowable due to their dependence from an
23 allowable base claim. These claims are also allowable for their own recited
24 features that, in combination with those recited in claim 32, are neither disclosed,
25 taught nor suggested by the combination of Morrison and See. Applicant
therefore respectfully requests that the §103(a) rejection of claims 33-36 be
withdrawn.

1 **Conclusion**

2 The Applicant submits that all of the claims are in condition for allowance
3 and respectfully requests that a Notice of Allowability be issued. If the Office's
4 next anticipated action is not the issuance of a Notice of Allowability, the
5 Applicant respectfully requests that the undersigned attorney be contacted for the
6 purpose of scheduling an interview.

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8 Respectfully Submitted,

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10 Dated: June 26, 2007

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